September 30,2003
Housatonic River Initiative / Housatonic Riverkeeper
Comments on the Ecological Risk Assessment
GE Housatonic River Site
Rest of River

The Housatonic River Initiative is a 501 (C) (3) non-profit citizens group founded in 1992. HRI membership includes river advocates, sportsmen, scientists, contaminated property owners, and public officials. HRI was formed with the specific mission of cleaning the Housatonic River and surrounding sites of PCB's and other chemical contamination. In addition, our mission seeks to reverse the legacy of a neglected river, through education, public participation, and proactive advocacy. HRI has an eleven-year track record of communicating with Berkshire County residents, including those who are directly affected by the chemical contamination from the GE site. These include fill property owners, floodplain property owners, and residential property owners. The Massachusetts DEP has written and recognized HRI " as a primary citizens advisory group for these sites" suggesting that and other parties are encouraged to join forces under the HRI umbrella". HRI is the Technical Assistance Grant recipient from the USEPA for this site.

This set of comments is intended to expand on the scientific comments presented by our technical consultant Dr. Peter de Fur. We will also discuss some of our concerns about the risk assessment process and why we endorse the "precautionary principle" as a means to help determine site remediation goals.

We commend the USEPA for there exhaustive ecological characterization and the effort that went into this document.

The Housatonic River is certainly one of the most contaminated PCB waterways in the United States. Pittsfield and the GE facility is recognized as one of the largest sites in the country. Exposures from this area have impacted the community for decades. PCBs have been found in hundreds of thousands of parts per million PCB at many areas. Now that we turn our focus on the "rest of the river" we ask as a community for you to remember the severity of the contamination, and that remedial decisions are our only hope that someday we will have a cleaner local environment with reduced exposure. Our river and floodplain was taken from us.

1)The Ecological Risk assessment concludes that there is low to moderate risk to fish. Fisherman have long reported fish with deformities in the river system. Most of these reports come from fishing in the primary study area. Fish have been found with levels in the hundreds of PPM PCB.

The EPA guidelines in which it considers fish to be at low risk, as long as the population is reproducing itself is absurd. This logic implies that if we have heavily contaminated fish with deformities and health implications , but there is enough of them, then there is no reason for concern. Anyone who has taken basic environmental

classes has read "Silent Spring" by Rachel Carson. One of the premises of this book is that if the wildlife are showing signs of being impacted then we should be concerned that something is wrong. This has long been the basis for modern environmentalism. The EPA logic seems to throw this concept out making a mockery of existing lab and field science that documents impacts to wildlife.

2) Lack of data for Connecticut

Although it has been documented that impoundments and slower moving sections of the river in Connecticut have higher levels of PCBs than the faster moving sections, there was no attempt to gather new samples or confirm historical data. Even though the PCB levels are much lower than in the Massachusetts portion of the river, there has been a fish advisory for many years in Connecticut. HRI has long maintained that dam sites below Woods Pond, both in Massachusetts and Connecticut, should be considered for remediation. Ignoring these levels of PCBs might inhibit the future goal of a fishable river.

Flooding has occurred in the Connecticut portion of the river. Considering the amount of mobile PCBs was considerably higher when there was active dumping into the river system, sampling of the floodplain areas would provide useful data. This new data would either confirm EPA's position that there is no impact to the floodplain in Connecticut, or determine the need for further investigation. Much of the data provided by the Connecticut DEP was generated by contractors for General Electric. We remind EPA that the Stewart Report by GE contractors in the1980s grossly underestimated the volume of PCBs in the river.

[1] The EPA [2]August 1988 RCRA Facility Assessment[3] reports "In December 1982, the Housatonic River study, performed by Stewart Laboratories for GE, documented that approximately 40,000 pounds of PCBs were contained in the river sediments in Massachusetts, comprising more than 250,000 cubic yards of contaminated sediment." (Pg. III-29)

For over a decade the estimate of 40,000 pounds of PCB contamination has been used in statements and documents by both the Massachusetts Department of Environmental Protection and the US EPA.

But according to an 1990 interview with Ed Bates and Charles Fessenden, there is reason to believe that far greater contamination has spread from the GE facility to the river system and surrounding neighborhood.

Ed Bates was the former Manager of Tests at Power Transformer at GE in Pittsfield, and Charles Fessenden was the Supervisor of Calculations. According to Ed Bates: "People don't realize that Pyranol is twice as heavy as water. If you put a gallon of Pyranol in water and it sinks right to the bottom. Within that twelve and a half pounds of Pyranol weighs, seven pounds of every gallon is PCBs. We used to use an average of 20,000 gallons of Pyranol a week and this is if you do simple mathematics, this is one hundred and forty thousand pounds of ... PCBs a week that we were handling. And we had a loss rate: spillage, overfilling, of about 3% so this says that every week we would lose between four and five thousand
pounds of PCBs that would go down into the drain and into the river. ...About a million

and a half pounds of PCBs have been plowed into that river. I imagine a good 30% is left."

It is fair to say that up until the last few years, Berkshire County residents were less than impressed with the efforts of state and federal environmental regulators. For reasons no one is sure of, the jurisdiction for the Pittsfield contamination fell under federal Resource Conservation and Recovery Act (RCRA) legislation, rather than the more powerful Superfund (CERCLA) legislation. Seemingly fearful that GE would exercise its legal option under RCRA to litigate, it seemed to us that the timetable and scope of remediation was shaped more by GE than the pressing environmental and public health needs of the community.

For example, most of the initial testing of the river, floodplain, and the bordering residential and business properties were done by GE consultants. Because the agencies didn't have a budget for extensive testing they were constantly forced to make a case for why GE should engage in additional testing. And it is precisely because of this inadequate testing that in recent years we are discovering dangerously high levels of PCB contamination in areas believed to be free of contamination.

If it was not for the Housatonic River Initiative constant calls for more non -General Electric controlled sampling, we still might not know the true extent of the contamination. Earlier this year GE announced at their ecological risk study presentation that that they now admit to close to a half a million pounds of PCBs are in the river and its floodplain.

3) Volatilization

HRI has long maintained that the volatilization of PCBs has been a concern for long-term exposure. . The Department of Public Health told the public that PCBs do not volatilize and they have no smell. Ex- GE workers would routinely comment about “the smell” as they remediated sites in Pittsfield. They commented on how it smells like the inside of the GE plant when they would heat up the PCBs to make them less viscous. The State University of New York (Sunny) **(See HRI comments to the ATSDR submitted as part of the Human Health Risk assessment)** and then the EPA tested the inside of homes in Pittsfield and reported PCB readings in many of the samples. Even though these levels were determined not to be“action levels” by the EPA, there was still exposure. This testing was congener specific and used state of the art vacuum testing equipment. Volatilization is happening.

The air testing units we have observed at the "rest of the river" sites seem to be old and we question their ability to conduct congener specific, low sensitivity tests.

There is also emerging data on volatilization, suggesting that it may be more of a factor than previously thought. It is being measured and/or studied on the Great Lakes, as part of global transport to the arctic, as absorbed in tree bark, etc.
Volatilized PCBs may be a minor risk compared to direct contact or fish consumption, but they still increase the overall risk when combined with the other exposures, and should be taken into consideration.

Recent studies about Polar Bears have indicated arctic PCB contamination. One of the possible pathways of exposure explored is volatilization and deposition on the snowcap. Wildlife who spend huge portions of their life in the river floodplain may be getting low level exposure during their lifetimes adding to the risk. The ecological risk assessment does not adequaely address combined exposure pathways.

4)Response level

What level of exposure actually triggers negative health outcomes? What level and length of exposure will lead to adverse health outcomes. Risk assessment also does not, nor cannot address the complex interactions associated with the timing of exposure and the amount of exposure necessary to have an effect. Recent studies and investigation strongly suggests that exposure timing may be a very substantial part of health outcomes and risk. In addition, it has been demonstrated that often a lesser dose over a longer period of time has greater negative health impacts, invalidating the "greater the dose, the greater the harm' thesis around which risk assessment is constructed.

5)Risk assessment vs. Precautionary principle.

The precautionary principle has been widely adopted in Europe. Recently the San Francisco City Council embraced it for guidance on all future environmental decisions. HRI urges EPA to abandon its exclusive reliance on the methodology of risk assessment to define and predict the complete risks associated with exposure to toxic chemicals including the issues of exposure timing, dosage, interaction between chemicals, age group, sensitivity etc. etc. We believe that risk assessment alone cannot adequately protect communities from exposure to the toxic chemicals that inevitably remain in our neighborhoods after a risk assessment-based remediation has been completed.

An international group of scientists, government officials, lawyers, and labor and grass-roots environmental activists met January 23-25, 1998 at Wingspread in Racine, Wisconsin to define and discuss the precautionary principle. [1] After meeting for two days, the group issued the following consensus statement:

Wingspread Statement on the Precautionary Principle

"The release and use of toxic substances, the exploitation of resources, and physical alterations of the environment have ha d substantial unintended consequences affecting human health and the environment. Some of these concerns are high rates of learning deficiencies, asthma,cancer, birth defects and species extinctions, along with global climate change,stratospheric ozone depletion and worldwide contamination with toxic substances and nuclear materials.

"We believe existing environmental regulations and other decisions, particularly those based on risk assessment, have failed to protect adequately human health

and the environment --the larger system of which humans are but a part.
"We believe there is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary.
"While we realize that human activities may involve hazards, people must proceed more carefully than has been the case in recent history. Corporations, government entities, organizations, communities, scientists and other individuals must adopt a precautionary approach to all human endeavors.
"Therefore, it is necessary to implement the Precautionary Principle: **When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof.**
"The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action." [End of statement.]

The principle of precautionary action has 4 parts:

1. People have a duty to take anticipatory action to prevent harm. (As one participant at the Wingspread meeting summarized the essence of the precautionary principle, "If you have a reasonable suspicion that something bad might be going to happen, you have an obligation to try to stop it.")
2. The burden of proof of harmlessness of a new technology, process, activity, or chemical lies with the proponents, not with the general public.
3. Before using a new technology, process, or chemical, or starting a new activity, people have an obligation to examine "a full range of alternatives" including the alternative of doing nothing.
4. Decisions applying the precautionary principle must be "open, informed, and democratic" and "must include affected parties."

Wingspread participants (affiliations are noted for identification purposes only):
Nicholas Ashford, Massachusetts Institute of Technology;
Katherine Barrett, University of British Columbia;
Anita Bernstein, Chicago-Kent College of Law;
Robert Costanza, University of Maryland;
Pat Costner, Greenpeace;
Carl Cranor, University of California, Riverside;
Peter deFur, Virginia Commonwealth University;
Gordon Durnil, attorney;
Dr. Kenneth Geiser, Toxics Use Reduction Institute, University of Mass., Lowell;
Dr. Andrew Jordan, Centre for Social and Economic Research on the Global Environment, University Of East Anglia, Britain;

Andrew King, United Steelworkers of America, Canadian Office, Toronto, Canada;
Frederick Kirschenmann, farmer;
Stephen Lester, Center for Health, Environment and Justice;
Sue Maret, Union Institute;
Dr. Michael M'Gonigle, University of Victoria, British Columbia,Canada;
Peter Montague, Environmental Research Foundation;
John Peterson Myers, W. Alton Jones Foundation;
Mary O'Brien, environmental consultant;
David Ozonoff, Boston University;
Carolyn Raffensperger, Science and EnvironmentalHealth Network;
Pamela Resor, Massachusetts House of Representatives;
Florence Robinson, Louisiana Environmental Network;
Ted Schettler, Physicians for Social Responsibility;
Ted Smith, Silicon Valley Toxics Coalition;
Klaus-Richard Sperling, Alfred-Wegener Institute, Hamburg, Germany;
Sandra Steingraber, author;
Diane Takvorian, Environmental Health Coalition;
Joel Tickner, University of Mass., Lowell;
Konrad von Moltke, Dartmouth College;
Bo Wahlstrom, KEMI (National Chemical Inspectorate), Sweden;
Jackie Warledo, Indigenous Environmental Network.

PCB Congress

On March 26, 2003 the first national PCB Congress was convened. It was the first time 36 groups representing PCB impacted communities from across the nation gathered together to discuss similar site concerns, document health issues and remediation successes and failures. At this event, the Declaration of Independence from PCBs was signed by a majority of those attending. It consolidates and fully expresses our overall hopes and expectations surrounding this cleanup and is critical to more fully understand and support our rationale and criticisms of the proposed risk assessment for The Housatonic River. We include this document for the record.

Submitted September 30, 2003
Timothy Gray, Housatonic Riverkeeper
Director
Housatonic River Initiative

[1]The Declaration of Independence From PCBs

Whereas polychlorinated biphenyls, commonly known as PCBs, belonging to the larger class of chemicals known as persistent, organic pollutants that have been determined to be harmful to the long term health and viability of both human beings and the environment, whose lasting effects are measured in hundreds of years, and

Whereas PCBs are a fabricated, industrial product with no naturally determined occurrence, a normal background level is zero; any PCBs measured in human or animal populations is, by definition elevated, and

Whereas their ubiquitous presence in the environment and thorough integration into the food chain is a direct result of, at best, irresponsible corporate behavior, and at worst, deliberate, industrial misconduct, and

Whereas we, the people, regardless of race, age or income have a right to a clean and healthy environment and to a life, free from the effects of industrial pollutants that have been imposed upon us through occupational
exposure or more commonly, without our knowledge and/or against our will, and

Whereas we, the people, investors in public companies governed by SEC guidelines, insist that they fully disclose their environmental liabilities, and
Whereas we, the people have a right to have access to the mechanisms of justice in environmental matters, and

Whereas we, the people remind our government to fully and consistently enforce the "doctrine of public trust," to protect public resources such as air and water, and

We, the people petition you to rise above party affiliation and economic influence, to fully embrace the highest and most honorable mission, to value and protect the interests of all people equitably and without prejudice and to specifically and without delay to recognize, honor and respond to the following principles and concerns that we hereby set forth:

We, members of communities affected by PCB contamination are united by its unwelcome presence. Whether placed there by intent or accident, through improper disposal by industry or considered containment by government, whether as residents living in proximity to PCBs or workers exposed to PCBs, we are equally at risk to the potential ill effects associated with this toxic substance. We seek an expedited remediation for all PCB's that are currently or potentially available for release into the environment.

Risk assessment alone is an inadequate methodology, and risk assessment of a single option is an inherently inadequate basis for decisions. It cannot fully measure the risk of complex interactions between the multitude of industrially introduced chemicals in various dosages, experienced by differing individuals at various stages in their development.

In that numerical cleanup standards reflect assumptions derived from risk assessments, we seek a cleanup based on best available technology, which may provide the greatest possible margin of safety for the environment and human health.

We strongly favor a policy of treatment over containment. Decisions about hazardous waste, especially regarding its disposal should be based on preventing, not merely managing, exposures. Treatment destroys PCBs; landfills merely store them and landfills may eventually fail. We urge regulatory agencies to support a continuing investigation and review of current and emerging technologies, and the employment of those that offer the highest level of destruction of PCBs with the least amount of toxic residue. We additionally urge our governing bodies to commit all necessary resources to innovative technological treatment solutions.

It is no longer technologically necessary to remove PCBs from one community for landfill disposal in another, especially if the host community is already overburdened, economically depressed, or where environmental justice concerns are at issue.

Decision making regarding PCB contamination based on "cost effectiveness," must include the following issues to fully reflect true costs: The long term impact on the health of the community and the environment, of untreated PCBs and/or byproducts associated with their treatment/destruction, and The economic loss to property owners and communities stigmatized by the presence of toxic waste, even if it is temporarily contained and The additional, potential liability faced by government and private industry if ongoing research reveals that current levels of protection are inadequate, and The long term monitoring and additional remedial measures that containment facilities may require.

As citizens accountable and responsible for our behavior, we hold corporations to this same standard of accountability and responsibility for their actions.

The polluter, not the taxpayer, rightfully must pay the cleanup costs.

We similarly hold you, the state and federal regulatory agencies responsible and accountable for our protection, to exercise the full extent of your authority to fulfill your mission to those you have been entrusted to serve.

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[2]We respectfully insist on direct, local citizen participation in all matters relating to the community affected by the contamination. We are in full agreement with the

Environmental Health Alliance, that; "Government and industry decisions should be based on meaningful citizen input and mutual respect (or the golden rule), with the highest regard for those whose health may be affected rather than those with financial interests. Independent science should inform public policy, and give the public information to make decisions about threats and guarantee effective safeguards and enforcement." Environmental Health Alliance "Be Safe: Blueprint Ensuring our Safety and Future Economy" 2003
The medical health of a citizenry should never be sacrificed for the economic health of a corporation. Communities deserve complete and timely responses to their concerns about health effects including, but not limited to, comprehensive testing to identify the extent of contamination in both the environment and people and; health studies including medical monitoring and access to information about toxic exposure.

We fully endorse the guidance offered by "The Precautionary Principle" as a mechanism for the public's protection. "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically." "The 1998 Wingspread Statement on the Precautionary Principle"

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[3]